

Appl. No. : **10/629,029**
Filed : **July 29, 2003**

REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested. Claims 76-114, 116 and 117 were pending in this application prior to entry of the abovementioned amendments. Claims 76-111 and 114 are herein canceled. Claims 112, 116 and 117 have been amended to clarify the invention and to correct typographical errors. New Claims 118-120 have been added. No new matter is added by any of these amendments. Accordingly, Claims 112, 113 and 116-120 are now pending.

Applicants submit that this application, as amended, is in condition for allowance and such action is earnestly requested. Each of the Examiner's reasons for rejection is addressed below.

Amendments to the claims

Claim 112 has been amended to clarify the invention. Claim 112, as amended, recites, *inter alia*, "each tray containing one of the beds of the solid source and confining the carrier gas to a single path from a tray inlet to a tray outlet; the single path defining one of a plurality of levels of the helical pathway, the carrier gas being in contact along the single path with the solid source in each tray." Claim 112 further clarifies that "the carrier gas guidance structure is configured to ensure contact of the carrier gas with the solid source for the vapor reactant along the substantially helical pathway." Amendments to Claim 112 are fully supported by the application as filed, U.S. Patent Publication No. 2005/0072357 ("the Application"), at, for example, paragraph [0107] and Figures 18 and 20 of the Specification.

Claims 116 and 117 have been amended to correct typographical errors and to match follow-on recitations with their antecedents in Claim 112. Claims 116 and 117, as amended, depend from Claim 112.

New dependent Claims 118-120 have been added. The new claims are fully supported by the Application at, for example, paragraphs [0098]-[0107] and Figures 14-18 and 20A-20C of the Specification.

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Rejections of the claims

Claims 76-88 and 90-102 are rejected under 35 U.S.C. §103(a) as being unpatentable over various combinations of U.S. Patent or Patent Publication Nos. 6,718,126 to Lei; 5,904,771 to Tasaki; 2001/0024387 to Raaijmakers; 6,720,259 to Londergan; and 6,270,839 to Onoe. Office Action at pages 2-4. Without acquiescing in the Examiner's rejections, Applicants submit that the §103(a) rejections of Claims 76-88 and 90-102 are moot in view of the cancellation of these claims.

Claims 112-114 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, 35 U.S.C. §103(a) as being obvious over Gartner. The Examiner has found that Gartner "discloses a sublimation apparatus for producing a vapor reactant comprising a sublimation vessel containing a bed of solid source material in the form of powder, and a guidance structure that provides a substantially helical pathway for carrier gas. The vessel has an inlet port and an outlet port and a coiled flow path 70 to 100 cm in length." The Examiner admits that "Gartner doesn't state the distance between the inlet and outlet." However, the Examiner has found that "it is clear from Gartner's disclosure that the helical pathway is inherently or at least obviously greater than about 2.5 times the distance between inlet and outlet." The Examiner has further found that "Gartner's apparatus includes stacked plates, which can be considered to be stacked trays that 'partially' define the helical pathway." Office Action at pages 4-5.

Claims 112-114 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, 35 U.S.C. §103(a) as being obvious over Gregg. The Examiner has found that Gregg "discloses a sublimation apparatus comprising a sublimation vessel containing a bed of solid source material in powder form, including plural guide trays. Gregg teaches (para. 58) that his trays include guiding structures that cause carrier gas flow with a 'whirlpool effect' that inherently causes the gas to flow in a helical path." Office Action at Page 5.

Gartner does not meet the language of amended Claim 112

Applicants submit that Claim 112, as amended, is allowable over Gartner because Gartner does not teach or suggest a carrier gas guidance structure comprising a plurality of stacked trays, with each tray containing a solid source for a vapor reactant. Applicants note that Gartner at

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most includes one tray (bottom 4 of container 1) that contains a volatile material 7. *See Fig. 1 of Gartner.* The plate or metal body 8 overlying Gartner's bottom 4 of the container 1 does not contain the volatile material and therefore cannot be considered a tray that meets the other limitations of Claim 112. Furthermore, amended Claim 112 clarifies that each of the recited plurality of trays defines "one of a plurality of levels of the helical pathway," which is not true of Gartner. Accordingly, Applicants respectfully request that the rejections of Claim 112 in view of Gartner be withdrawn.

Claims 113, 116 and 117 depend from and therefore include all of the limitations of amended Claim 112, in addition to reciting additional features of particular advantage and utility. Gartner does not teach or suggest all of the limitations of amended Claim 112, let alone the unique combinations of limitations of Claims 113, 116 and 117. Accordingly, Applicants respectfully request that the rejections of Claims 113, 116 and 117 in view of Gartner also be withdrawn.

Without acquiescing in the Examiner's rejection of Claim 114 in view of Gartner, Applicants submit that this rejection is moot in view of the cancellation of this claim.

Gregg does not meet the language of amended Claim 112

Applicants submit that Claim 112, as amended, is allowable over Gregg because Gregg does not teach or suggest a "a plurality of stacked trays, each tray containing one of the beds of the solid source and confining the carrier gas to a single path from a tray inlet to a tray outlet, the single path defining one of a plurality of levels of the helical pathway, the carrier gas being in contact along the single path with the solid source in each tray," nor does Gregg teach or suggest a guidance structure "configured to ensure contact of the carrier gas with the solid source for the vapor reactant along the substantially helical pathway."

Rather, the identified "pores" of Gregg define whirlpools in the underside of each tray to ensure high contact area for the gas with the hot tray, not with the solid source. While Gregg's carrier gas may contact powder at some point during its diffusive path through the trays, no identifiable part of a helical path contacts the solid; rather the helix is confined to within the pores and no definitive path shape can be identified in the portions of the tray that hold the solid source. Accordingly, Applicants respectfully request that the rejections of Claim 112 in view of Gregg be withdrawn.

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Claims 113, 116 and 117 depend from and therefore include all of the limitations of amended Claim 112, in addition to reciting additional features of particular advantage and utility. Gregg does not teach or suggest all of the limitations of amended Claim 112, let alone the unique combinations of limitations of Claims 113, 116 and 117. Accordingly, Applicants respectfully request that the rejections of Claims 113, 116 and 117 in view of Gregg also be withdrawn.

Without acquiescing in the Examiner's rejection of Claim 114 in view of Gregg, Applicants submit that this rejection is moot in view of the cancellation of this claim.

New claims 118-120 are allowable in view of the asserted allowability of Claim 112

New Claims 118-120 depend from and therefore include all of the limitations of Claim 112, in addition to reciting additional features of particular advantage and utility. In view of the asserted allowability of amended Claim 112, Applicants submit that new Claims 118-120 are allowable.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. If there is any further hindrance to allowance of the pending claims, the Examiner is invited to contact the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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